

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims

Claims 1-5. (Canceled)

6. (Previously Presented) A method for refining a slurry using a mechanical refiner having an inlet for receiving a slurry to be refined, a discharge outlet for refined slurry, a stator mounting a first refining element, and a rotor mounting a second refining element spaced from said first refining element to define a refining gap in communication with said inlet and said discharge outlet, said rotor being supported for rotary movement about an axis and relative to said stator for refining said slurry in said refining gap; said method comprising the steps of:

- a) comparing local axial widths of the refining gap at three or more positions along the first refining element with one or more reference values;
- b) independently moving three or more spaced portions of the stator along the axis to adjust an axial width of the refining gap and to adjust a trim of the first refining element relative to the second refining element;
- c) inducing the slurry to flow through the inlet into the refining gap; and
- d) rotating the rotor about the axis and relative to the stator to refine the slurry in the refining gap.

Claims 7-18. (Canceled)

19. (Previously Presented) A method for refining a slurry using a mechanical refiner having an inlet for receiving a slurry to be refined, a discharge outlet for refined slurry, a stator

mounting a first refining element, and a rotor mounting a second refining element spaced from said first refining element to define a refining gap in communication with said inlet and said discharge outlet, said rotor being supported for rotary movement about an axis and relative to said stator for refining said slurry in said refining gap; said method comprising the steps of:

- a) initializing the refining gap to zero;
- b) comparing operating conditions in the mechanical refiner with one or more reference values;
- c) independently moving three or more spaced portions of the stator along the axis to adjust an axial width of the refining gap and to adjust a trim of the first refining element relative to the second refining element according to operating conditions;
- d) inducing the slurry to flow through the inlet into the refining gap; and
- e) rotating the rotor about the axis and relative to the stator to refine the slurry in the refining gap.

20. (Previously Presented) The method recited in claim 19, wherein the operating conditions are at least one of refiner element wear, pressure, temperature, and motor revolutions.

21. (Previously Presented) The method recited in claim 19, wherein actuators comprising a ball nut engageable with precision threads move the spaced portions of the stator in response to an encoder information driven motor.